MASS. ED14.2:T 73
Board of Regents of Higher Education
12/18/87
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Trends in Degrees Conferred, 1979 - 1986

Between 1979 and 1986, the number of degrees conferred by Massachusetts colleges and universities increased 3.8% compared to a national rise (1979-1985) of 5.9%. Even though the number of degrees awarded in the Commonwealth has grown more slowly than in the rest of the nation, Massachusetts still produces a higher than average number of degrees per capita or per student. Massachusetts, with 2.4% of the nation's population, accounted for 3.5% of the nation's enrollment, 4.0% of all degrees granted, 4.9% of graduate degrees, and 5.4% of doctorates. (Attachment 1.)

The most striking trend in this period is the decline in the number of degrees conferred in the public sector (-7.1%). While the closure of Boston State College very likely contributed to this trend, the decline in associate degrees granted (-11.5%) is the major reason for the fall off, accounting for 58.5% of the decrease. Equally significant, while degrees were declining, enrollments at public institutions increased more than 5% during that period. Of special interest is that the number of degrees awarded to minority students increased only 2.6% between 1978 and 1984, even though minority enrollment increased 36.1% during this same period, substantially more than the overall average.

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82 /47

The statewide increase is attributable to the independent sector. From 1979 to 1986, the independent sector granted 4,505 more degrees (9.8%). The independent sector realized gains in all levels except the Associate Degree which fell 113 or 1.9%. Doctoral Degrees granted increased 564 (36.5%). Baccalaureate, Masters & Certificate of Advanced Graduate Studies (CAGS) and First Professional Degrees grew 2,873 (11.9%), 880 (7.7%) and 301 (9.8%) respectively.

In contrast, the public sector conferred fewer degrees at all levels except the First Professional which remained relatively constant. The Associate Degree led the decline losing 1,064 for a 11.5% decrease; the Masters and CAGS level declined 500 or 17.6%. The Baccalaureate and Doctorate degrees declined slightly. The closing of Boston State College in 1982 contributed to the decrease in the number of Masters and Baccalaureate granted at public institutions. In June of that year, Boston State College awarded 403 Masters and 798 Baccalaureate degrees, 14.1% and 6.0% of the respective public sector totals. Since that time, however, the number of public sector Baccalaureate and Masters degrees increased. In fact, 388 more Masters were granted in 1986 than in 1983 for a 20% gain. Over the same four year period the number of Baccalaureate degrees rose 1.2%.

At the Associate and graduate degree level, there are significant differences between the two sectors in the distribution of degrees. (Attachment 2.) Associate degrees account for 34.6% of all the degrees awarded in the public sectors and only 11.3% in the independent sector. For both sectors combined, the Associate Degree accounted for 18.7% of all degrees, well below the national rate of 24.9%. With some of the most prestigious universities in the nation, the independent sector dominated graduate education, awarding more than 85% of the post baccalaureate degrees in the Commonwealth. Graduate degrees account for 27.7% of all Massachusetts degrees compared to 21% across the nation. The percentage of students receiving baccalaureate degrees is roughly the same in both sectors: 54.3% in the public sector and 53.4% in the independent sector, compared to 54% for the entire nation.

Across all institutions, the number of minorities receiving degrees increased 1,454 or 41.4% (Attachment 3.) Blacks received 108 more degrees for a 5.3% increase; Asians realized the largest increase of 736 or 115.4%; and Hispanics were second gaining 645 for a 97.4% increase. Both Whites and American Indians realized decreases, 996 fewer Whites and 35 fewer American Indians received degrees. Minorities, as a whole, accounted for only 6.8% of the degrees granted state-wide, which was up from 4.9% in 1979.

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The independent sector awarded more degrees in all ethnic categories. The largest increase occurred for Hispanics (586 or 132.9%). Asians were second with an increase of 607 or 122.6%. Blacks received 229 more degrees for an increase of 15.8%. American Indians and Whites remained relatively stable showing gains of 5 (6.2%) and 823 (2.0%) respectively. Thus the percentage of minorities receiving degrees in the independent sector increased from 5.4% to 7.8%. In the public sector only Asians and Hispanics received more degrees. They experienced gains of 129 (90.2%) and 59 (26.7%) respectively. The number of degrees awarded to Blacks, American Indians and Whites declined 121 (20.2%), 40 (46.5%) and 1819 (7.5%) respectively. Because of the large decline in degrees conferred to Whites, minorities now account for 4.5% of all degrees conferred, up slightly from 1979 (4.1%).

There are three major factors that might explain the drop in the rate at which Massachusetts public higher education institutions confer degrees. First, attrition or drop-out rates may be increasing for public higher education students. Second, students in public higher education may be taking more time to complete their degrees. Finally, public higher education students may be pursuing different courses of study.

Increased attrition rates would indicate that an increasing proportion of the students who begin work on a given degree withdraw before obtaining the degree. This could be attributable to an increasing proportion of incoming students with poor academic preparation. During the coming year, the Regents will be addressing the problem of attrition/retention as part of its study of the undergraduate experience.

Students could also take longer to complete a degree because of the extra work needed to remedy academic deficiencies and because they are studying part-time. Between 1978 and 1986 the number of part-time students increased 10,721 or 14%. However, during this same period, full-time enrollment decreased slightly, 401 or .4%. Additionally, public colleges and universities are attracting older students who tend to be part-time. Students, 25 years old and older, showed the greatest gain between 1984 to 1986, increasing 22.8% while the national rise was 6.2%. Most of the statewide gain was in the 25 - 39 age group. For example, the community colleges showed a 23.0% increase in this age group. (Chancellor's Report to the Board of Regents, September 1987)

The decline in the number of degrees conferred by public institutions may also reflect a change in the degree level pursued by students. There may be an increasing tendency among Massachusetts Community College students to either pursue certificate or other non-degree programs or to transfer into

Baccalaureate level programs before the Associate Degree is completed. This trend may explain the difference in Associate degrees awarded at Massachusetts public institutions compared to higher education institutions nationwide. Nationally, the number of Associate degrees awarded increased 12.9 percent between 1979 and 1986, compared to a decrease of 11.5 percent for Massachusetts public universities and colleges. In addition, between 1983 (after the close of Boston State College) and 1986, the number of Associate Degrees declined 8.2%, while the number of Bachelor's Degrees increased 1.2%. The issue of student transfer will also be addressed in the Regents' study of undergraduate education.

The changes noted above could also be related to the economic renaissance enjoyed by the Commonwealth. Studies indicate that community colleges are especially sensitive to business cycles; when recessions occur enrollment in two year institutions mushroom as students seek to sharpen their skills in a contracting employment market. When the economy soars, as has been the case in the past two years, students are tempted by high paying jobs to either leave school or to pursue their studies part-time or to seek certificates rather than degrees. However, this reasoning may not fully explain the decrease in Massachusetts. Other state public higher education systems such as New York (up 1%), New Jersey (up 10%) and Connecticut (down 1%) have not experienced this sharp decline in the number of associate degrees granted.

Finally, the most prevalent fields of study for which degrees were granted (Business and Management, Engineering, Social Science, Education and Health Science) were very similar in both Massachusetts public and independent higher education institutions. The following table shows the similarity in those degrees constituting more than 5% of the total in each sector. (See Attachment 4 and 5 for the 50 HEGIS/IPEDS program categories.)

Table 1

Degrees Awarded by Rank and Percent for Major Categories

Public and Independent Colleges - 1986

Rank	PUBLIC	#	%	INDEPENDENT	#	%
1	Business/Management	4,782	19.6%	Business/Management	10,980	21.0%
2	Education	2,089	8.6%	Social Sciences	5,434	10.5%
3	Health Science	1,710	7.0%	Engineering	3,990	7.7%
4	Social Science	1,553	6.4%	Law	3,060	5.9%
5	Engineering	1,507	6.2%	Education	2,792	5.4%
6	Liberal/General Stud	1,394	5.7%	Health Science	2,767	5.4%
7	Business and Office	1,303	5.4%			

Trends in Degrees Conferred by Level 1978 - 1986

	AY 78-79	AY 79-80	AY 80-81	AY 81-82	AY 82-83	AY 83-84	AY 84-85	AY 85-86	GROWTH IN DEGREES CONFERRED BY LEVEL #	%
A. Massachusetts Degrees Conferred - Total	71496	72877	73454	75747	73613	74491	73647	74178	2682	3.8%
Associate	15076	14649	14671	15392	15333	15168	14687	13899	-1177	-7.8%
Baccalaureate	37153	38270	38797	40029	38918	40135	39780	39779	2626	7.1%
Masters & CAGS	14251	14652	14416	14946	13625	13771	14470	14631	380	2.7%
Doctorate	1864	1840	2029	1812	1945	1854	1782	2413	549	29.5%
First Professional	3152	3466	3541	3568	3792	3563	2928	3456	304	9.6%
Public Degrees Conferred	25594	25039	24646	25315	23936	23907	23799	23771	-1823	-7.1%
Associate	9248	8884	8801	8889	8911	8908	8583	8184	-1064	-11.5%
Baccalaureate	13096	13123	12854	13346	12696	12574	12769	12849	-247	-1.9%
Masters & CAGS	2835	2650	2570	2686	1947	2021	2025	2335	-500	-17.6%
Doctorate	319	286	320	294	282	301	319	304	-15	-4.7%
First Professional	96	96	101	100	100	103	103	99	3	3.1%
Independent Degrees Conferred	45902	47838	48808	50432	49677	50584	49848	50407	4505	9.8%
Associate	5828	5765	5870	6503	6422	6260	6104	5715	-113	-1.9%
Baccalaureate	24057	25147	25943	26683	26222	27561	27011	26930	2873	11.9%
Masters & CAGS	11416	12002	11846	12260	11678	11750	12445	12296	880	7.7%
Doctorate	1545	1554	1709	1518	1663	1553	1463	2109	564	36.5%
First Professional	3056	3370	3440	3468	3692	3460	2825	3357	301	9.8%
B. U.S. Degrees Conferred	1726749	1730932	1751184	1788798	1821783	1818600	1828446	Data not available	101697	5.9%
Associate	402702	400910	416377	435515	456441	452416	454712		52010	12.9%
Baccalaureate	921390	929417	935140	952998	969510	974309	979477		58087	6.3%
Masters & CAGS	301079	298081	295739	295546	289921	284259	286251		-14828	-4.9%
Doctorate	32730	32615	32958	32707	32775	33209	32943		213	0.7%
First Professional	68848	69909	70970	72032	73136	74407	75063		6215	9.0%

Sources: Digest of Educational Statistics 1987, Center for Educational Statistics, pages 190-192 and 215.
Digest of Educational Statistics 1981, Center for Educational Statistics page 127
Massachusetts Higher Education General Information Survey: Summary Reports 1979, 1980, 1981, 1982, 1984, 1985 and 1986.

Percentage Distribution of Degrees Conferred by Level 1978 - 1986

	AY 78-79	AY 79-80	AY 80-81	AY 81-82	AY 82-83	AY 83-84	AY 84-85	AY 85-86
A. Massachusetts Degrees Conferred - Total								
Associate	21.1%	20.1%	20.0%	20.3%	20.8%	20.4%	19.9%	18.7%
Baccalaureate	52.0%	52.5%	52.8%	52.8%	52.9%	53.9%	54.0%	53.6%
Masters & CAGS	19.9%	20.1%	19.6%	19.7%	18.5%	18.5%	19.6%	19.7%
Doctorate	2.6%	2.5%	2.8%	2.4%	2.6%	2.5%	2.4%	3.3%
First Professional	4.4%	4.8%	4.8%	4.7%	5.2%	4.8%	4.0%	4.7%
Massachusetts Public Sector								
Associate	36.1%	35.5%	35.7%	35.1%	38.3%	37.3%	36.1%	34.6%
Baccalaureate	51.2%	52.4%	52.2%	52.7%	54.5%	52.6%	53.7%	54.3%
Masters & CAGS	11.1%	10.6%	10.4%	10.6%	8.4%	8.5%	8.5%	9.9%
Doctorate	1.2%	1.1%	1.3%	1.2%	1.2%	1.3%	1.3%	1.3%
First Professional	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%
Massachusetts Independent Sector								
Associate	12.7%	12.1%	12.0%	12.9%	12.9%	12.4%	12.2%	11.3%
Baccalaureate	52.4%	52.6%	53.2%	52.9%	52.8%	54.5%	54.2%	53.4%
Masters & CAGS	24.9%	25.1%	24.3%	24.3%	23.5%	23.2%	25.0%	24.4%
Doctorate	3.4%	3.2%	3.5%	3.0%	3.3%	3.1%	2.9%	4.2%
First Professional	6.7%	7.0%	7.0%	6.9%	7.4%	6.8%	5.7%	6.7%
B. U.S. Degrees Conferred								
Associate	23.3%	23.2%	23.8%	24.3%	25.1%	24.9%	24.9%	data
Baccalaureate	53.4%	53.7%	53.4%	53.3%	53.2%	53.6%	53.6%	not
Masters & CAGS	17.4%	17.2%	16.9%	16.5%	15.9%	15.6%	15.7%	available
Doctorate	1.9%	1.9%	1.9%	1.8%	1.8%	1.8%	1.8%	
First Professional	4.0%	4.0%	4.1%	4.0%	4.0%	4.1%	4.1%	

Sources: Digest of Educational Statistics 1987, Center for Educational Statistics, pages 190-192 and 215.
Digest of Educational Statistics 1981, Center for Educational Statistics page 127
Massachusetts Higher Education General Information Survey: Summary Reports 1979, 1980, 1981, 1982, 1984, 198

Trends in Degrees Conferred by Race/Ethnicity 1978 - 1985

Total Degrees Conferred	AY 78-79	%	AY 80-81	%	AY 82-83	%	AY 84-85	%	Growth of Degrees Conferred Number	Percentage Change
Black	2045	2.9%	2419	3.3%	2140	2.9%	2153	2.9%	108	5.3%
Asian/Pacific Islander	638	0.9%	1043	1.4%	1058	1.4%	1374	1.9%	736	115.4%
Hispanic	662	0.9%	1110	1.5%	1170	1.6%	1307	1.8%	645	97.4%
American Indian	167	0.2%	173	0.2%	140	0.2%	132	0.2%	-35	-21.0%
Non-resident Alien	2439	3.4%	3184	4.3%	3981	5.4%	4131	5.6%	1692	69.4%
White, non hispanic	65546	91.7%	65525	89.2%	65124	88.5%	64550	87.6%	-996	-1.5%
Total	71497	100.0%	73454	100.0%	73613	100.0%	73647	100.0%	2150	3.0%
Public Degrees Conferred										
Black	599	2.3%	651	2.6%	463	1.9%	478	2.0%	-121	-20.2%
Asian/Pacific Islander	143	0.6%	171	0.7%	163	0.7%	272	1.1%	129	90.2%
Hispanic	221	0.9%	307	1.2%	250	1.0%	280	1.2%	59	26.7%
American Indian	86	0.3%	47	0.2%	56	0.2%	46	0.2%	-40	-46.5%
Non-resident Alien	384	1.5%	408	1.7%	417	1.7%	380	1.6%	-4	-1.0%
White, non hispanic	24162	94.4%	23062	93.6%	22587	94.4%	22343	93.9%	-1819	-7.5%
Total	25595	100.0%	24646	100.0%	23936	100.0%	23799	100.0%	-1796	-7.0%
Independent Degrees Conferred										
Black	1446	3.2%	1768	3.6%	1677	3.4%	1675	3.4%	229	15.8%
Asian/Pacific Islander	495	1.1%	872	1.8%	895	1.8%	1102	2.2%	607	122.6%
Hispanic	441	1.0%	803	1.6%	920	1.9%	1027	2.1%	586	132.9%
American Indian	81	0.2%	126	0.3%	84	0.2%	86	0.2%	5	6.2%
Non-resident Alien	2055	4.5%	2776	5.7%	3564	7.2%	3751	7.5%	1696	82.5%
White, non hispanic	41384	90.2%	42463	87.0%	42537	85.6%	42207	84.7%	823	2.0%
Total	45902	100.0%	48808	100.0%	49677	100.0%	49848	100.0%	3946	8.6%

(1) Degrees do not include certificates of completion.
(2) Race data is collected every other year in the HEGIS/IPEDS Data System.
(3) Missing data was prorated based upon known values.

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Public Sector Degrees Conferred by Level and Field AY 85 - 86

	Fields of Study	Associates	Bachelors	Masters	Doctoral	First Professional	Distribution by Program Number	Percentage
1	Agribusiness & Agricul. Prod.	125	45	5	1		176	0.7%
2	Agricultural Sciences	5	78	14	9		106	0.4%
3	Renewable & Natural Resources	23	46	7	4		80	0.3%
4	Architecture & Environ Design		83	35			118	0.5%
5	Area and Ethnic Studies		22	4			26	0.1%
6	Busines and Management	1692	2875	205	10		4782	19.6%
7	Business and Office	1239	64				1303	5.4%
8	Marketing and Distribution	73	55				128	0.5%
9	Communications	43	496	6	5		550	2.3%
10	Communication Technologies	66	19				85	0.3%
11	Computer and Information Sci.	284	582	64	11		941	3.9%
12	Consumer, Personal						0	0.0%
13	Education	91	1023	863	112		2089	8.6%
14	Engineering	150	1026	301	30		1507	6.2%
15	Engineering Related	530	245				775	3.2%
16	Foreign Languages		112	11	1		124	0.5%
17	Allied Health	735	141	29			905	3.7%
18	Health Science	797	664	149	1	99	1710	7.0%
19	Home Economics	23	272	36	2		333	1.4%
20	Vocational Home Economics	147					147	0.6%
22	Law	13	54				67	0.3%
23	Letters	9	440	51	10		510	2.1%
24	Liberal/General Studies	1310	80	4			1394	5.7%
25	Library and Archival	2					2	0.0%
26	Life Sciences		556	66	15		637	2.6%
27	Mathematics	14	174	171	5		364	1.5%
30	Multi/interdisciplinary Stud.	30	281	3	9		323	1.3%
31	Parks and Recreation	8	39				47	0.2%
38	Philosophy and Religion		31	5	2		38	0.2%
39	Theology						0	0.0%
40	Physical Sciences	4	211	75	29		319	1.3%
41	Science Technologies	5					5	0.0%
42	Psychology		633	53	16		702	2.9%
43	Protective Services	518	177	15			710	2.9%
44	Public Affairs	26	172	40			238	1.0%
45	Social Sciences	8	1460	53	32		1553	6.4%
46	Construction Trades						0	0.0%
47	Mechanics and Repairers	66					66	0.3%
48	Precision Products	41					41	0.2%
49	Transportation & Mater Moving	14	203				217	0.9%
50	Visual & Performing Arts	93	490	70			653	2.7%
	Grandtotal	8184	12849	2335	304	99	23771	100.0%
	Percentage of Total	34.6%	54.3%	9.9%	1.3%	0.4%		

Please note that this table does not include 693 certificates which were granted during AY 85-86

Independent Sector Degrees Conferred by Level and Field AY 85 - 86

	Fields of Study	Associates	Bachelors	Masters	Doctoral	First Professional	Distribution by Program Number	Percentage
1	Agribusiness & Agricul. Prod.	3					3	0.0%
2	Agricultural Sciences	46					46	0.1%
3	Renewable & Natural Resources						0	0.0%
4	Architecture & Environ Design	90	35	344	10		487	0.9%
5	Area and Ethnic Studies		265	42	20		327	0.6%
6	Busines and Management	1719	5529	3696	36		10980	21.3%
7	Business and Office	652	4				656	1.3%
8	Marketing and Distribution	529	25				554	1.1%
9	Communications	48	1104	206			1358	2.6%
10	Communication Technologies	9		5			14	0.0%
11	Computer and Information Sci.	217	891	234	1		1343	2.6%
12	Consumer, Personal	36					36	0.1%
13	Education	64	743	1789	196		2792	5.4%
14	Engineering	60	2573	1136	221		3990	7.7%
15	Engineering Related	724	810				1534	3.0%
16	Foreign Languages		464	31	15		510	1.0%
17	Allied Health	449	788	320	2		1559	3.0%
18	Health Science	220	903	735	87	822	2767	5.4%
19	Home Economics	75	14				89	0.2%
20	Vocational Home Economics	151					151	0.3%
22	Law	66		261	459	2274	3060	5.9%
23	Letters	6	1582	157	46		1791	3.5%
24	Liberal/General Studies	233	245	48	4		530	1.0%
25	Library and Archival			176	2		178	0.3%
26	Life Sciences		1381	144	137		1662	3.2%
27	Mathematics		419	57	21		497	1.0%
30	Multi/interdisciplinary Stud.	43	406	49	43		541	1.0%
31	Parks and Recreation	17	46	20			83	0.2%
38	Philosophy and Religion		317	22	21		360	0.7%
39	Theology		65	242	126	261	694	1.3%
40	Physical Sciences		623	185	259		1067	2.1%
41	Science Technologies	2	1				3	0.0%
42	Psychology		1281	379	142		1802	3.5%
43	Protective Services	39	311	170			520	1.0%
44	Public Affairs	16	87	1091	28		1222	2.4%
45	Social Sciences	3	4733	491	207		5434	10.5%
46	Construction Trades	34					34	0.1%
47	Mechanics and Repairers						0	0.0%
48	Precision Products	18					18	0.0%
49	Transportation & Mater Moving	72					72	0.1%
50	Visual & Performing Arts	66	1285	266	26		1643	3.2%
	Grandtotal	5715	26930	12296	2109	3357	50407	100%
	Percentage of Total	11.3%	53.4%	24.4%	4.2%	6.7%		

* Please note that this table does not include 1545 certificates which were granted duri